Amendments to the Claims:

1.   (Currently Amended) A signal processor arranged and constructed to recover a sequence of symbols from a received signal, comprising:

a symbol selector for selecting a symbol based on the received signal over a time period including previous symbol periods, a current symbol period, and a number of additional symbol periods, where said number of additional symbol periods depend on an inter symbol interference associated with the received signal; and

a trellis processor for providing, for each symbol period, said symbol selector with one surviving path to each of a plurality of symbol states, said plurality of symbol states corresponding one to one to a plurality of symbols, said one surviving path including a sequence of branches, one branch for each symbol period, said one branch corresponding to a transition from one to another of said plurality of symbol states, wherein said trellis processor determines said one surviving path according to a metric for each of a plurality of paths to each of said plurality of symbol states, said metric corresponding to a correlation between the received signal and a template for each branch that is part of said each of a plurality of paths.

2.   (Previously Presented) The signal processor of claim 1 wherein said symbol is selected based on said number of additional symbol periods equaling two.

3. through 6.   (Canceled)

7.   (Currently Amended) The signal processor of claim 1 6 wherein said metric further corresponds to a half energy of said template for said each branch.

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8.   (Currently Amended) ~~The signal processor of claim 1 further including~~ A signal

processor arranged and constructed to recover a sequence of symbols from a received signal,

comprising:

a symbol selector for selecting a symbol based on the received signal over a time period

including previous symbol periods, a current symbol period, and a number of additional symbol

periods, where said number of additional symbol periods depend on an inter symbol interference

associated with the received signal;

a trellis processor for providing, for each symbol period, said symbol selector with one

surviving path to each of a plurality of symbol states, said plurality of symbol states

corresponding one to one to a plurality of symbols, said one surviving path including a sequence

of branches, one branch for each symbol period, said one branch corresponding to a transition

from one to another of said plurality of symbol states; and

a correlator for providing to said trellis processor, for each symbol period, a correlation

between the received signal for said each symbol period and each of a plurality of templates

where each of said plurality of templates corresponds to a possible transition from one to another

of said plurality of symbol states.

9.   (Original) The signal processor of claim 8 wherein said plurality of said templates is

selected to facilitate providing said correlation.

10.   (Original) The signal processor of claim 8 where said received signal is a Bluetooth

signal using 2 state frequency shift keyed modulation, a variable length packet size, and said

number of additional symbol periods is two.

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11.   (Previously Presented) The signal processor of claim 8 where said received signal is sampled four times per symbol period spaced at 1/4 of a symbol period with a first sample at 1/8 of a symbol period and each of said correlations is performed on four samples spaced across a symbol transition.

12.   (Previously Presented) The signal processor of claim 1 further including a means for carrier error correction that determines a difference between an expected received signal based on the sequence of symbols recovered and the received signal and uses said difference to provide carrier error correction.

13.   (Previously Presented) A signal processor arranged and constructed to recover a

sequence of symbols from a received signal, comprising in combination:

a correlator for providing a plurality of correlations between the received signal and a

plurality of corresponding templates for each symbol period, each template corresponding to a

possible transition from a first symbol to a second symbol within a plurality of symbols;

a trellis processor for assigning metrics to a plurality of branches on a trellis for said each

symbol period, said metrics corresponding to said plurality of correlations, said trellis processor

further, for each symbol time, providing a path and a composite metric for each node and

trimming all other paths that terminate at said each node, said each node corresponding to one

symbol of said plurality of symbols, where said composite metric corresponds to a one of said

metrics assigned to a one of said plurality of branches and a previous composite metric

associated with a previous node where said one of said plurality of branches originated, said

composite metric being better than other composite metrics corresponding to other branches of

said plurality of branches, said one of said plurality of branches being a latest branch in said path;

and

a symbol selector, responsive to said path and said composite metric for each node, for

selecting said path having a better composite metric and for selecting a symbol corresponding to

a node on said path at a symbol time period dependent on inter symbol interference associated

with the received signal.

14.   (Canceled)

15.   (Original) The signal processor of claim 13 wherein said trellis processor provides said

composite metric as a difference metric, said difference metric representing the difference

between composite metrics for said path for said each node.

16.   (Original) The signal processor of claim 13 wherein said plurality of said templates are

selected to facilitate providing said correlations.

17.   (Previously Presented) The signal processor of claim 13 where said received signal is a

Bluetooth signal using 2 state frequency shift keyed modulation and a variable length packet size.

18.   (Previously Presented) The signal processor of claim 13 further including a means for

carrier error correction that determines a difference between an expected received signal based on

the sequence of symbols recovered and the received signal and uses said difference to provide

carrier error correction.

19.   (Currently Amended) A method of recovering a sequence of symbols from a received

signal, including the steps of:

selecting a symbol based on the received signal over a time period including previous

symbol periods, a current symbol period, and a number of additional symbol periods, where said

number of additional symbol periods depends on an inter symbol interference associated with the

received signal; and

providing, for each symbol period, one surviving path to each of a plurality of states, said

plurality of states corresponding to a plurality of symbols, said one surviving path including a

sequence of branches, one branch for each symbol period, said one branch corresponding to a

transition from one to another of said plurality of symbols; and

determining said one surviving path according to a metric for each of a plurality of paths

to each of said plurality of states, said metric corresponding to a correlation between the received

signal and a template for each branch that is part of said each of a plurality of paths.

20.   (Original) The method of claim 19 wherein said step of selecting said symbol over said

time period including said additional symbol periods includes two additional time periods.

21. through 24.   (Canceled)

25.   (Currently Amended) The signal processor of claim 19 24 wherein said metric further

corresponds to a half energy of said template for said each branch.

26.   (Currently Amended) The method of claim 19 24 further including a step of providing,

for each symbol period, said correlation and a step of selecting said templates to facilitate

providing said correlation, each of said templates corresponding to a possible transition from one

to another of said plurality of states.

27.   (Original) The method of claim 26 where said received signal is a Bluetooth signal using

2 state frequency shift keyed modulation, a variable length packet size, and said number of

additional symbol periods is two.

28.   (Previously Presented) The signal processor of claim 26 where said received signal is

sampled four times per symbol period spaced at 1/4 of a symbol period with a first sample at 1/8

of a symbol period and each of said correlations is performed on four samples spaced across a

symbol transition.

29.   (Original) The method of claim 19 further including a step of determining a carrier error

based on a difference between an expected received signal based on the sequence of symbols

recovered and the received signal and using said difference to provide carrier error correction.